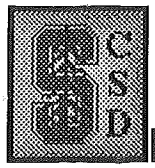


Naming and resource location

Larry Masinter, Xerox PARC

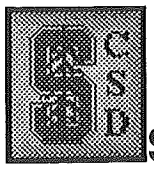
Stanford Computer Forum WWW Workshop - September 20-21, 1994

A clear advance in the field of computer networking was the introduction of separate concepts and mechanisms for naming, addressing, and routing. Machines might have names (db.stanford.edu) which then get translated to addresses (36.38.0.91), for which the appropriate route might be determined.

However, the situation for documents and information resources is more complex. The Internet community is working on standardizing ways of describing how to find, name, and obtain access to information resources, through Uniform Resource Locators (which correspond roughly to an address or route), Uniform Resource Names (which name the object independently of its locations), and descriptions of the characteristics of objects which can be used for searching.

The talk will cover the state of the standardization process and some of the design issues being addressed.

[Workshop Schedule] [Workshop Information] [Workshop Readings]



Software Agents on the WWW

Steve Cousins and Yoav Shoham

Stanford Computer Forum WWW Workshop - September 20-21, 1994

The world-wide web has made it very easy, for the first time, to build global distributed systems. The difficulty of retrieving information has been reduced from a tedious interaction with the ftp program to a click of a mouse button. Because of this, the amount of information available is exploding. Software agents are being designed to operate autonomously "on the web". In this talk, we discuss three aspects of agency:

Consumer agents

> Consumers of information may utilize agents either for automated retrieval or for filtering information once it is retrieved. There are already many examples of such agents in existence -- a few will be discussed in detail.

Producer agents

> Providers of information may program agents to control access to the information they are providing. For example, information about employees' home addresses may be accessible from within an organization but denied to those outside.

Collaborating agents

> The web is a great place to explore models from economics and game theory of how agents interact and collaborate. The nobotics group at Stanford is exploring how protocols for collaboration can be formed, etc.

[Workshop Schedule] [Workshop Information] [Workshop Readings]

Web Structure and Meta-Information

Terry Winograd

Stanford Computer Forum WWW Workshop - September

20-21, 1994

As the quantity and diversity of materials on the Web increases, there are increasing demands for a more regularized way of providng information about those materials, for use in searching, indexing, browsing, cataloging and other such activities. It is clear that there is much to be gained by a common protocol for "meta-information" -- information about information.

There are a number of different approaches to meta-information, growing out of different traditional applications types and computing areas:

Headers and templates

Most programmers are familiar with some form of meta-information that is represented as a list of pairs with label and filler. Common examples include email headers, library catalog entries (in fact, any flat database structure), unix bibref entries, LISP property lists, and many more.

Objects

Current programming practice emphasizes the encapuslation and hierarchical structuring that are provided by an object model. The information can still be thought of as label/value pairs, but the set of labels and expected values is structured by the object mechanisms (of which there are many variants). Typically the value of a slot in one object can be another object, recursively.

Logic

AI researchers have long used representation languages that use the full expressive power of first order (or higher order) logic. This includes the ability to state quantified information (e.g., "every book whose author works at Stanford is available for free use by Stanford students.")

As we build up mechanisms for expressing and communicating meta-information about information objects on the web, there are a number of issues that must be addressed. They are outlined in the slides for the talk .

[Workshop Schedule] [Workshop Information] [Workshop Readings]

WWW Browsers: Extensibility Issues

Pei Wei, O'Reilly & Associates

Stanford Computer Forum WWW Workshop - September 20-21, 1994

An Architecture of Extensibility and Plug-In Components in Browsers

---

The WorldWideWeb is a powerful medium which has many applications beyond just publishing static documents. It is certainly an interface to the space of "documents." But already, with established features such as input-forms and server-side scripting, we see that the web is also increasingly becoming an interface to the space of what is traditionally called "applications."

To support all the ever inventive and encompassing uses of the web, browsers are called upon to have ever more features. However judiciously browser designers choose the features to implement, a consequence is that many browsers tend to be able to do many things, but also tend to be fairly shallow in each area.

The topic of this talk is to describe a few possible approaches to solving this problem; And to briefly describe one particular approach as implemented by a system known as ViolaWWW.

[Workshop Schedule] [Workshop Information] [Workshop Readings]

---

wei@ora.com

Interacting with Information

Eviatar Shafrir, Hewlett Packard

Stanford Computer Forum WWW Workshop - September 20-21, 1994

Interacting with Information: Beyond HyperJumping in InfoSpace,
A Visual Design Perspective.

The WorldWideWeb has opened the door to InfoTravel. With our favorite 'Mosaic' or 'Cello' brand InfoCars we take off and explore InfoSpace. Whatever metaphor we use to describe our online adventures, we are forced to view them all through the windshield of this, that, or yet another aging Desktop. Furthermore, the information exhibits are forced to behave as static Documents in Application windows.

While each Desktop is populated with overlapping Windows, displaying dynamic contents and of elastic size, our favorite InfoCars can take us to Documents where the contents are tiled, scrolled, and static. In addition, we are not really travelling since there is no continuous motion in HyperSpace. We can only jump from one InfoStop to the next and most times without ample guidance or expectation of what's ahead.-

At each InfoStop the information itself is now active, hot, and live. This creates an Interaction Dissonance between Desktop behaviors (present in the InfoCar, around the windshield) and local navigation metaphors unique to each InfoStop (visible through the windshield). Since there is no InfoGovernment to standardize highway signage, the Information Designer must now performs both road construction as well as emergency road service duties for bewildered travelers.

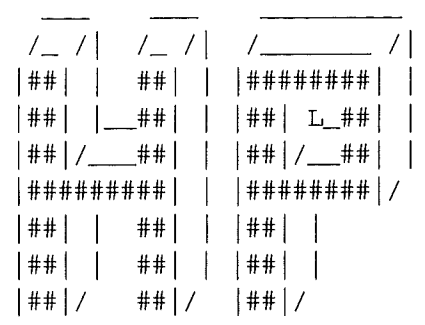
The basic research issues raised in this talk are:

- The disappearing boundaries between interface design and information design. Do accepted user interface construction methodologies apply well to interactive information?
- Metaphor Orchestration and Metaphor Cacophony. While each information exhibit consisting of one or more InfoStops is design with its own local navigation metaphor, can a meta-metaphor be ellucidated? Is one neccessary?
- The information construction materials available today (namely HTML) allow for simplistic tiled-arrangements of static content. While HTML+ and PostScript can no doubt do better, what is the SpaceAge InfoCement from which pliable, dynamic, overlaid information exhibits will be constructed? From an interaction design perspective: What is the experience these exhibits would be able to impart?

As a Visual Interaction Designer responsible for the design of Access HP, Hewlett-Packards presence on the WorldWideWeb, this talk will cover the navigation metaphor we've developed, and describe guidelines we are following when constructing interactive information exhibits that address the above issues. This discussion will be accompanied by visual examples of current information design as well as future interactive information design demonstrating information overlays,

information overlapping, and local interactivity. To experience some of the navigation techniques we are introducing hop over to our home page at 'http://www.hp.com ' and find the a product sheet describing one of the scanners. We have coined the term QuickScrolling as a predictable online interaction. Each of the product data sheets uses QuickScrolling to move between logical sections without HyperJumping.

==========



Eviatar Shafrir
Hewlett-Packard, Computer Systems Organization,
1266 Kifer Road, Building 101G,
Sunnyvale, CA 94086 USA
Email: shafrir@hpuid.ptp.hp.com
HP DESK mail: Eviatar_Shafrir/HP2200/UM
Anonymous ftp to 'hpuid' (15.8.8.160)
Tel: (408) 746 5237 FAX: (408) 746 5268

Visual Access to Hyper-Information: Using Multiple Metaphors with Graphic Affordances

Eviatar Shafrir
User Interaction Design Group
Hewlett-Packard Company, MS-101G,
1266 Kifer Road, Sunnyvale, CA 94086 USA
shafrir@hpuid.ptp.hp.com 1-408-746-5237

Jafar Nabkel
Software Engineering Systems Division
Hewlett-Packard Company, MS-81,
3404 East Harmony Road, Ft. Collins, CO 80525
jafar@fc.sde.hp.com 1-303-229-3652

ABSTRACT
Finding answers in a maze of hyper-linked information is disorienting and frustrating for computer users. Online help for workstation applications is largely inaccessible, difficult to consume, and rarely used. Confronted by these large volumes, users ask themselves "where am I?" and "is what I'm looking for really here?" The poster presents an integrated product of information design with graphic affordances that together ease user access and exploration. Multiple recognizable metaphors visually couple hyper-links with topics, helping each user create a predictable cognitive map of the information-space. The collaboration between learning products professionals and visual designers, practicing visual thinking techniques was instrumental in creating this integrated solution.

KEYWORDS: hyper-information, online help, metaphor, affordance, icon, visual design, visual language.

CONSTRAINTS AND OBJECTIVES
With 900 pages of documentation to develop for a new product, we realized that the existing non-hyper-linked text-only help system was inadequate. We decided to concentrate on information and usability design and use an existing SGML online information presentation tool. Based on early user inputs and influenced by Horton [1] we set four objectives. We wanted users to 1) recognize familiar modules from anywhere in the online information, 2) know where they are in the information structure, 3) have multiple ways to browse or locate information directly, and 4) be compelled to explore the information space.

METAPHOR DEVELOPMENT
A series of rapid visualization sessions using visual thinking techniques described by McKim [2] and Verplank [4] involved a visual interaction designer, a learning products engineer, and an illustrator. The goal was to elucidate information-organization concepts and user-interactions requiring visual affordances, defined in Norman [3], for interactive access. Metaphor searching techniques covered *bottoms-up* ("how about a clipboard for *step-by-step instructions*?"), *top-down* ("suppose we are driving a car, what would a *table-of-contents* be?"), and *progressive-synthesis* ("if *caution* is a road sign, what could we use for *shortcuts*?").

This abstract is to appear in the Interactive Posters section of the SIGCHI'94 Companion Proceedings, April 1994, Boston, USA.

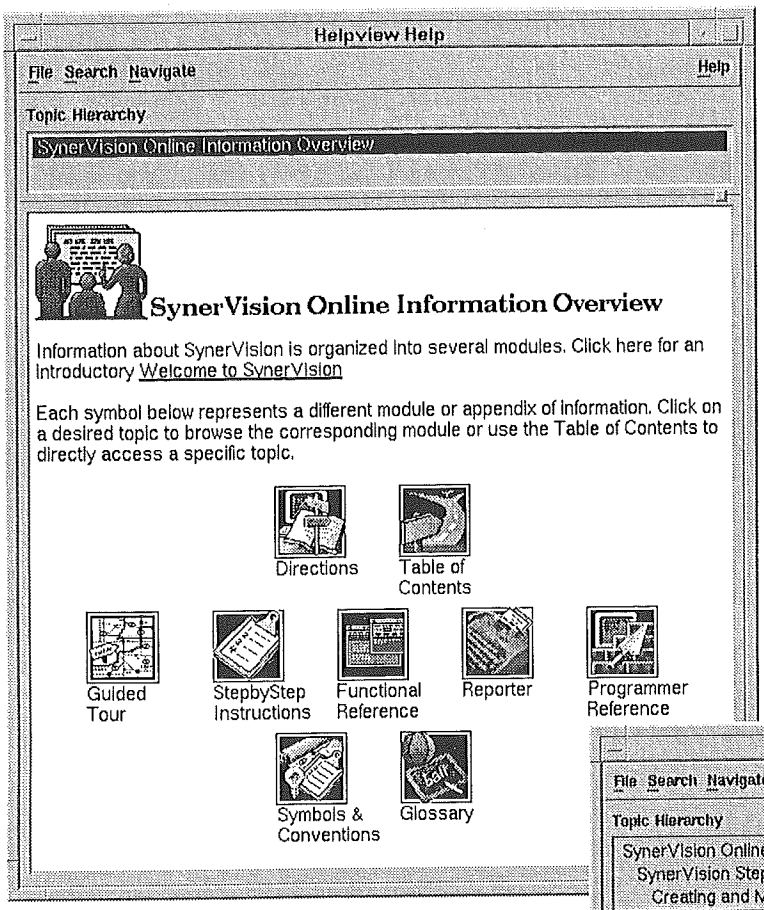
Forcing the entire set of abstract information-organization concepts and user-activities requiring depiction into one metaphor is simply impossible. More importantly there are benefits in using multiple metaphors that remap familiar domains of user experience when creating a large family of graphic affordances. The 'Book' metaphor was examined and found inadequate since the differences between the crop of book-like and paper-like icons it generated were too subtle. We developed a 'Geographical Terrain' metaphor with roads, junctions, signs, and maps, together with a familiar 'Office' metaphor with typewriters, notepads, and computers. When our frains bried over a *glossary* concept, we used a 'School' with chalkboard metaphor. Sensitivity to the international user community guided us in not using body parts nor animals in our designs (e.g. no hands, fingers, human faces or cats).

VISUAL DESIGN LANGUAGE
A single visual design language was developed based on prior experience in the visual design field. Applying a small set of graphic generation rules unified *topic-buttons, landmarks,* and *information signs* creating clarity of expression at the affordance level. (See Shafrir & Nabkel, Color Plate 1.) Graphics remain distinguishable from one another yet share a common appearance. The icons were pixelated from thumbnail sketches using a concise non-saturated color set. Almost every object is viewed from a similar perspective and gently protrudes from its button-frame as if 'filling it up'. This mitigates for the viewer the real size difference that exists between real objects from different metaphors.

CONCLUSION
Design of hyper-information structures in the GUI age requires multiple metaphors representing navigation and content organization. User confusion expressed as "where am I?" can be diminished with integrated design of visual affordances and information structure. Iterative design, structured information, visual thinking, and above all full collaboration between learning products and visual design professionals are an enjoyable must for project success.

REFERENCES
1. Horton, William K. Designing and Writing Online Documentation. *John Wiley & Sons,* 1990.
2. McKim, R. H. Experiences in Visual Thinking. *PWS Publishers,* Boston, MA 1980, ISBN 0-8185-0411-0
3. Norman, Donald A. The Psychology of Everyday Things. *Basic Books, Inc.* New York, USA 1988.
4. Verplank, Bill *et al.* Visual Thinking and Observation and Invention. *SIGCHI'89 & INTERCHI'93* Tutorials.

Shafrir and Nabkel Color Plate 1



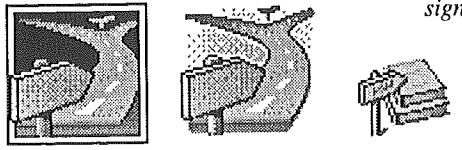
STRUCTURED INFORMATION

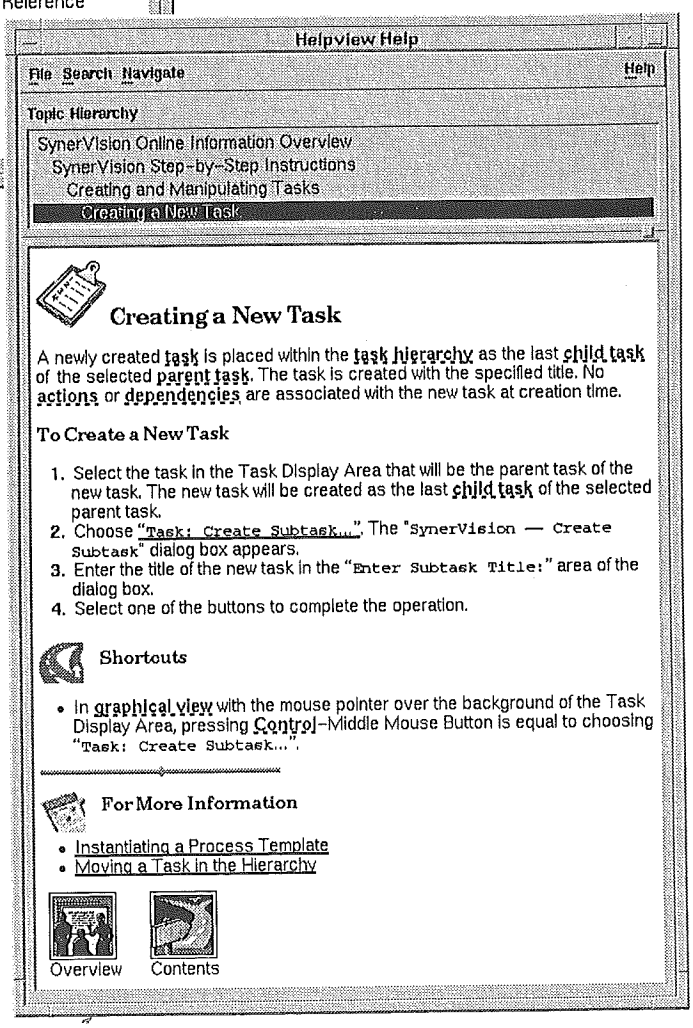
Considering the different information and learning needs of casual and experienced users we divided the 530 online-equivalent pages into five primary modules shown in the middle row of the *Overview* screen on the left. Top and bottom rows afford access to supporting modules. Rectangular colorized *topic-buttons* are pushable and linked to specific topics. Frameless *landmarks*, shown below, appear at the top-left of every online topic. *Landmarks* display the same image as the *topic-buttons* that brought the user to that topic however they are rendered in grayscale and do not compete for interactive attention. *Information signs* are placed along the margins and draw attention to related topics. Designed to provide visual queues to location and proximity, *landmarks* and *information signs* are not hyper-linked. Designed to blend into the page, *landmarks* and *information signs* have no frame and do not present themselves as pushable buttons.

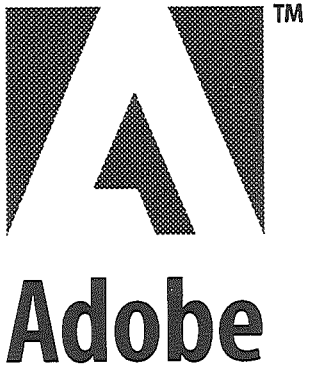
VISUAL DESIGN LANGUAGE

Users operating in a GUI environment already recognize that rectangular buttons afford clicking on. Therefore *topic-buttons* are always colorized, saying "Hey!", and have a rectangular frame conveying "Click on me." Corresponding *landmarks* are the same objects rendered in grayscale, saying "You are here." Their outline blends with the digital page conveying "I'm not linked, Don't click on me." *Information signs* are smaller and serve as visual section headings at the end of every topic visualizing caution, tips, and hyper-proximity of additional information. Using depictions of books to represent online volumes limits the power of visual metaphor to extend beyond the desktop. Especially when portions of the information are printed in real books and require referencing from related online topics. (*Refer-to-printed-manuals* symbol below.) An off-white color is used as background to the black text lowering contrast and reducing eye-strain.

topic-button *landmark* *information sign*







Page Layout and Portability: Two Hypertext Alternatives

Stephen N. Zilles
Adobe Systems Incorporated

The Thesis

- HTML uses formatting on the fly
- The Portable Document Format (PDF) uses pre-formatting of pages
- Both approaches have utility
- Both can be hyperlinked
- There are research issues in their interplay

HTML, Mosaic and URLs are powerful tools

- Interchange Format
- Associated Display Application
- Inter-document/system/site HyperLinks

Some Presentations, however may benefit from pre-formatting

- Where the structure of the text conveys information
- Where there are old documents that cannot change or are not worth redoing
- Where there are legal or artistic requirements on page fidelity
- Where documents may require extensive formatting: tables, math, advertisements
- Where there are temporary working drafts; brainstorming results; one-off documents

Requirements for a Presentation Format

- Work with existing documents/production methods
- Preserve original representation
- Cross-platform solution
- Space efficient
- Access to text, to copy or index
- Support aids to access parts of document
- Document construction/editing capabilities
- Hyperlink capabilities

Hyperlinks are useful with presentation formats

- GIF with overlaid HTML anchors
  - not device independent:
    prints/displays poorly; no zoom
  - large storage requirement;
    long transmit times
  - text in images is not accessible,
    e.g., for indexing
- PDF with embedded (URL) links

Portable Document Format Links

- are an extensible set
  - within document links
  - across document links
  - links to HTML documents
  - and links from HTML documents
- the "buddy" system
  - paired Mosaic and PDF Viewers

PDF, Adobe Acrobat and URLs are powerful tools

- Interchange Format: **PDF**
- Associated Display Application: **Adobe Acrobat**
  - free viewers for MAC, Windows, Unix, DOS
- Inter-document/system/site HyperLinks

Making the "buddy" system work

- Search for an existing "buddy" application
- New open file message (Spyglass, NCSA)
  - file to open
  - URL for relative references
  - MIME type string
- Each application can launch/use the other

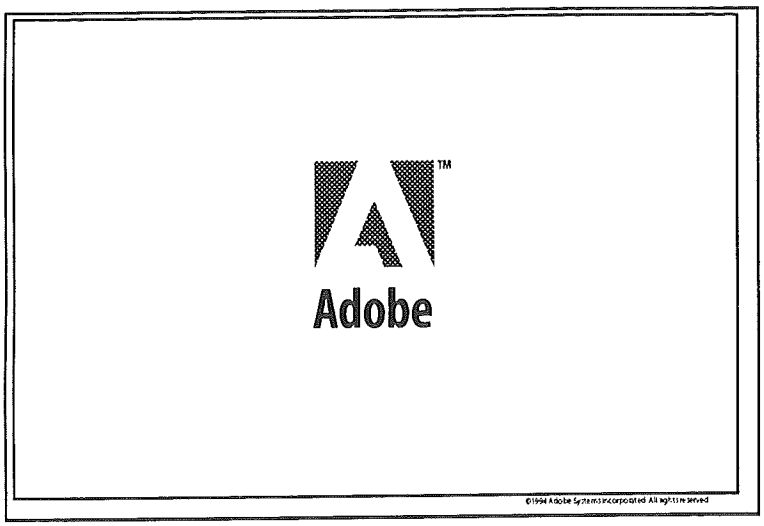
Research Issues
Granularity of inter-operation

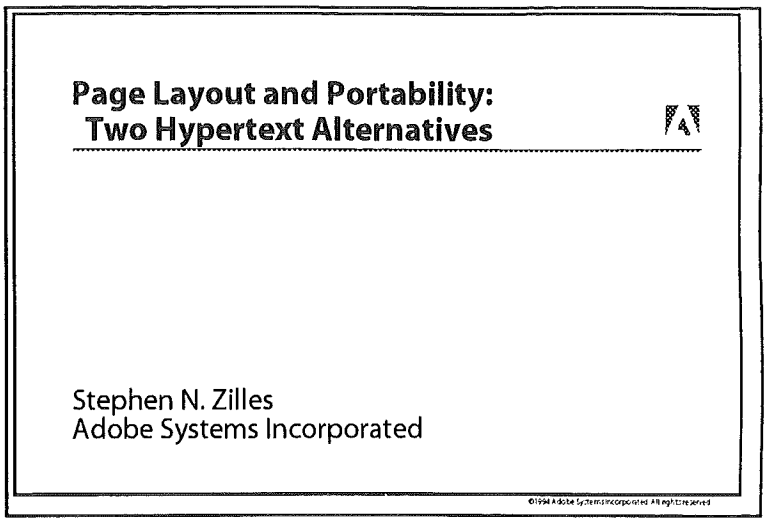
- None,
  choose HTML or PDF, never both
- "Buddy" system,
  each file is either HTML or PDF
- "Page integration",
  each page is either HTML or PDF
- "Object integration",
  each object is either HTML or PDF

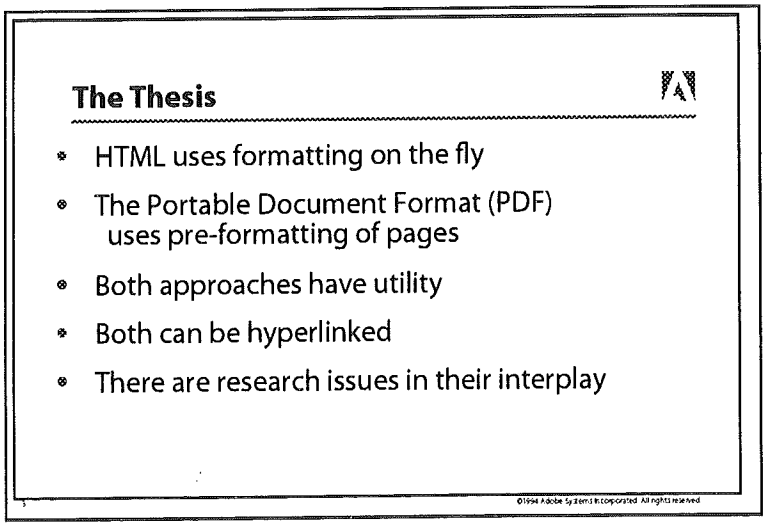
Research Issues

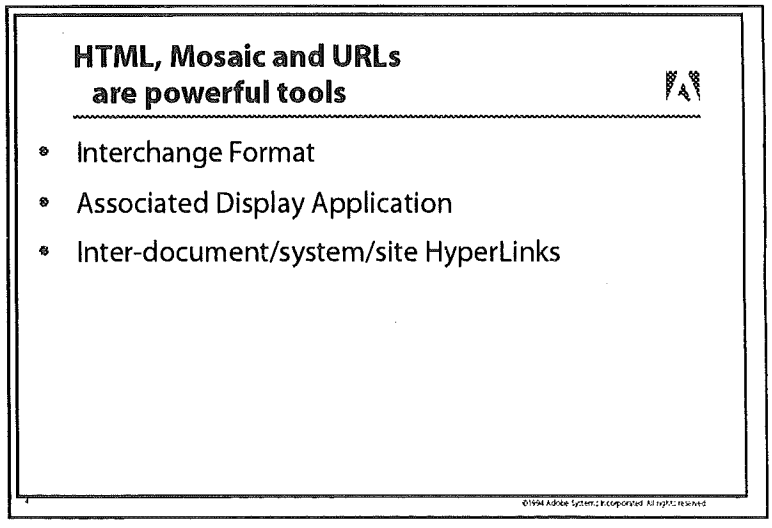
- One viewer for both HTML and PDF or collections of viewers?
- How should a history stack work between browsers?
- How should temporary storage be managed?
- What features should a presentation viewer have?

Page Layout and Portability: Two Hypertext Alternatives









Page Layout and Portability: Two Hypertext Alternatives

Some Presentations, however may benefit from pre-formatting

- Where the structure of the text conveys information
- Where there are old documents that cannot change or are not worth redoing
- Where there are legal or artistic requirements on page fidelity
- Where documents may require extensive formatting: tables, math, advertisements
- Where there are temporary working drafts; brainstorming results; one-off documents

Requirements for a Presentation Format

- Work with existing documents/production methods
- Preserve original representation
- Cross-platform solution
- Space efficient
- Access to text, to copy or index
- Support aids to access parts of document
- Document construction/editing capabilities
- Hyperlink capabilities

Hyperlinks are useful with presentation formats

- GIF with overlaid HTML anchors
  - not device independent: prints/displays poorly; no zoom
  - large storage requirement; long transmit times
  - text in images is not accessible, e.g., for indexing
- PDF with embedded (URL) links

Portable Document Format Links

- are an extensible set
  - within document links
  - across document links
  - links to HTML documents
  - and links from HTML documents
- the "buddy" system
  - paired Mosaic and PDF Viewers

Stephen Zilles, Adobe Systems, Inc at Stanford University, September 20, 1994

Page Layout and Portability: Two Hypertext Alternatives

PDF, Adobe Acrobat and URLs are powerful tools

- Interchange Format: **PDF**
- Associated Display Application: **Adobe Acrobat**
  - free viewers for MAC, Windows, Unix, DOS
- Inter-document/system/site HyperLinks

Making the "buddy" system work

- Search for an existing "buddy" application
- New open file message (Spyglass, NCSA)
  - file to open
  - URL for relative references
  - MIME type string
- Each application can launch/use the other

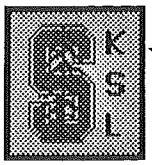
Research Issues Granularity of inter-operation

- None, choose HTML or PDF, never both
- "Buddy" system, each file is either HTML or PDF
- "Page integration", each page is either HTML or PDF
- "Object integration", each object is either HTML or PDF

Research Issues

- One viewer for both HTML and PDF or collections of viewers?
- How should a history stack work between browsers?
- How should temporary storage be managed?
- What features should a presentation viewer have?

Stephen Zilles, Adobe Systems, Inc at Stanford University, September 20, 1994



Virtual Documents

Tom Gruber, Stanford University

Abstract of talk given at the Stanford Computer Forum WWW Workshop - September 20-21, 1994

Virtual documents are hypermedia documents that are *generated on demand* , in response to user (reader) input. Unlike a hand crafted web of static pages, a virtual document can provide answers to a huge space of potential information needs, and can adapt the presentation to the reader. Virtual documents can be seen in software delivery modalities such as forms-based query interfaces to databases, client-based (remote) user interfaces to applications, and application embedding. The standards and installed base of the World Wide Web provide the basis for applying these sorts of techniques to make true virtual documents a reality today.

In this talk we demonstrate the potential of virtual documents with several working examples of from the World Wide Web. The possibilities include

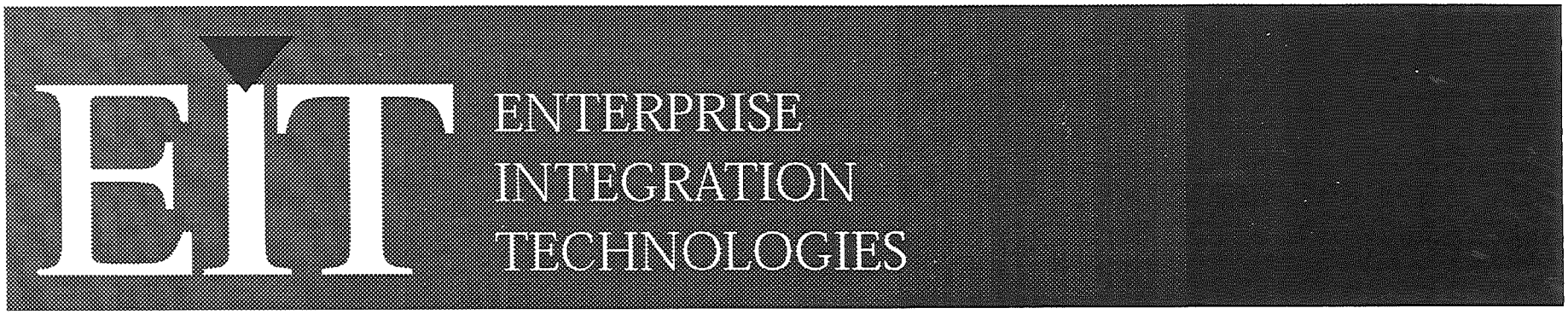
- Generating virtual documentation from formal models, so that the documentation always reflects the artifact being described.
- Incorporating the results of computer-assisted analysis in presentations and discussions, so that colleagues can replicate and examine the claims
- Delivering on-line tutorials on interactive applications or services, in which the examples actually run
- Collaboratively authoring shared virtual documents

The talk will also introduce some of the technical issues and tradeoffs, such as

- Compiling versus generating dynamically; caching strategies
- Deliverying new functionality on the client or server side; retaining platform independence
- Reentrancy, user independence, and how to store state using a stateless protocol

---

[Slides for this talk] [Workshop Information] [Workshop Readings]



Secure HTTP: Safe Transactions for the World-Wide Web

Presented By:

Allan M. Schiffman
Chief Technical Officer
Enterprise Integration Technologies
800 El Camino Real
Menlo Park, CA 94025
(415) 617-8700
ams@eit.com

Background on WWW

- A Distributed Hypermedia System
- Explosive Growth, Frantic Level of Interest
  - Developed at CERN in '92
  - Took off with NCSA's Mosaic Browser
  - Thousands of Servers? Millions of Users?
  - Active Development Community
- HTTP = HyperText Transfer Protocol
  - Native Client/Server Protocol for the WWW
- Secure-HTTP is an Interoperable Extension of HTTP

EIT

S-HTTP Design Goals

- Enable Spontaneous Commercial Transactions
- Negotiation of Algorithms, Modes & Parameters
- Layer separation (Don't "Fix" HTTP)
- Mechanism, not Policy
  - Trust Model Independence
    - Where do Certificates Come From?
    - What Do Certificates Mean?
- Interoperability
  - With Existing Clients & Servers (w/o Security)
  - With Implementations of Varying Capabilities

EIT

Other WWW Security Work

- Primordial WWW Security Mechanisms
  - IP Address Authentication — Most Common
  - "Basic Authentication" — Flawed, but Popular
  - PEM/PGP Encapsulation — Largely Unused
  - Kerberos — Originally Unimplemented
- CERN Proposal: Shen
- Others (Application Independence?)
  - Real Kerberos Integration
  - GSSAPI Integration

EIT

Internet Security — The Big Picture

Where Does It Belong?

- Is the Net Less Secure than the Real World?
  - Yes. Phone Taps are Local, 29¢ Buys Privacy.
- Host, Perimeter & Network Security All Needed
  - Infrastructure Especially: Routing Fabric, DNS.
- Security Needed in Applications Anyway
  - "Solving" Problem Once is Attractive, But...
  - Application Imposes User Model & Vocabulary
  - End-to-End Argument: Its Where the Buck Stops
  - Application is Best Positioned to Make Tradeoffs

EIT

S-HTTP Focus: Negotiation

- Permit Parties to Express Requirements and Preferences.
- Used in Message Headers and Embedded in Documents
- Choice May Depend on:
  - Capability of Implementation
  - Application Requirements
- Schema
  - Property, such as "Bulk Encryption Algorithm"
  - Value, such as "DES-CBC"
  - Direction: Receive or Originate
  - Strength: Required, Optional, Refused
  - "You may use DES when encrypting."
  - "I insist on using DES when encrypting."

EIT

Negotiable Items

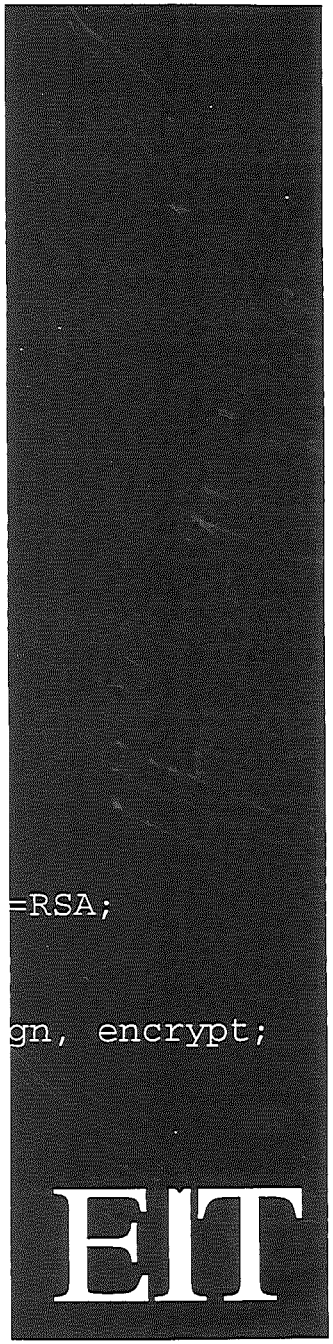
- Encapsulation Format: PKCS-7, PEM or PGP
- Signature Algorithm: RSA or DSA
- Key Exchange Algorithm:
  RSA, In-band, "Outband", D-H, Kerberos
- Message Digest Algorithm: MD2, MD5 or SHA
- Encryption Algorithms: DES, DES-EDE2/EDE3, DESX, IDE
  C4
- Protection Mode: Signature, Encryption, Keyed MAC
- Public Key Certificate Format: X.509 or PKCS-6
- Certificate Pattern (e.g., "Mastercard or Visa")

EIT

Negotiation Example

A Common Case

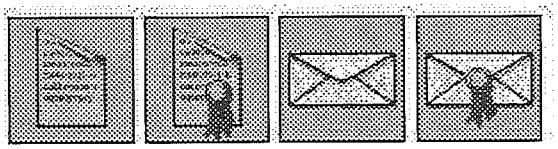
- Server Specifies:
  - Client Must Encrypt
  - Server Willing to Sign and/or Encrypt
  - Transaction Key Exchanged Under...
    - Server's Public Key when Client Encrypts
    - Server or Client's PK when Server Encrypts



Complicated, but not for Users

Document Security Status Icons

- What are the Document's Security Properties?
  - Unprotected
  - Signed
  - Encrypted
  - Signed & Encrypted
- Click on it to Find Out More

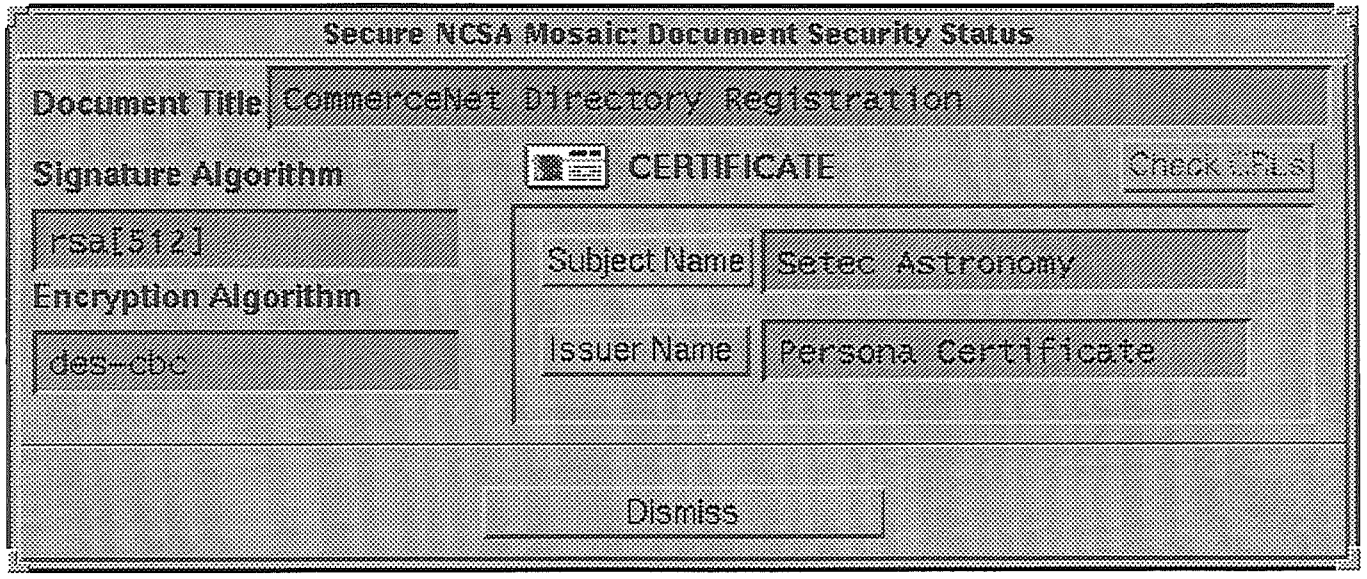


EIT

Complicated, but not for Users

Security Status Pop-Up Window

- Everything You Need to Know

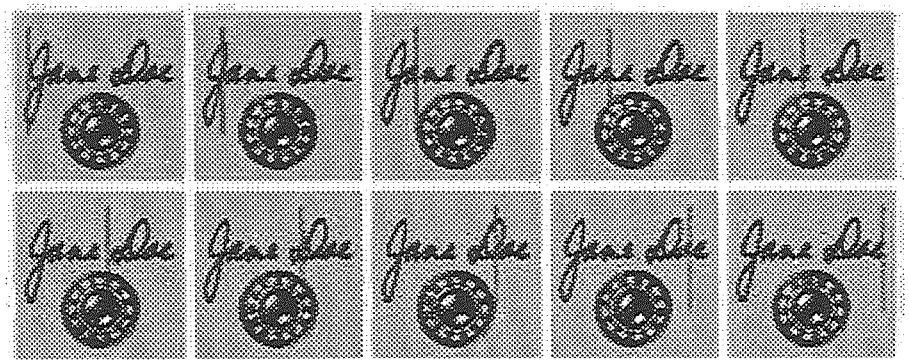


EIT

Complicated, but not for Users

Progress Indicators

- What's it Doing?
  Encrypting, Decrypting, Signing, Verifying

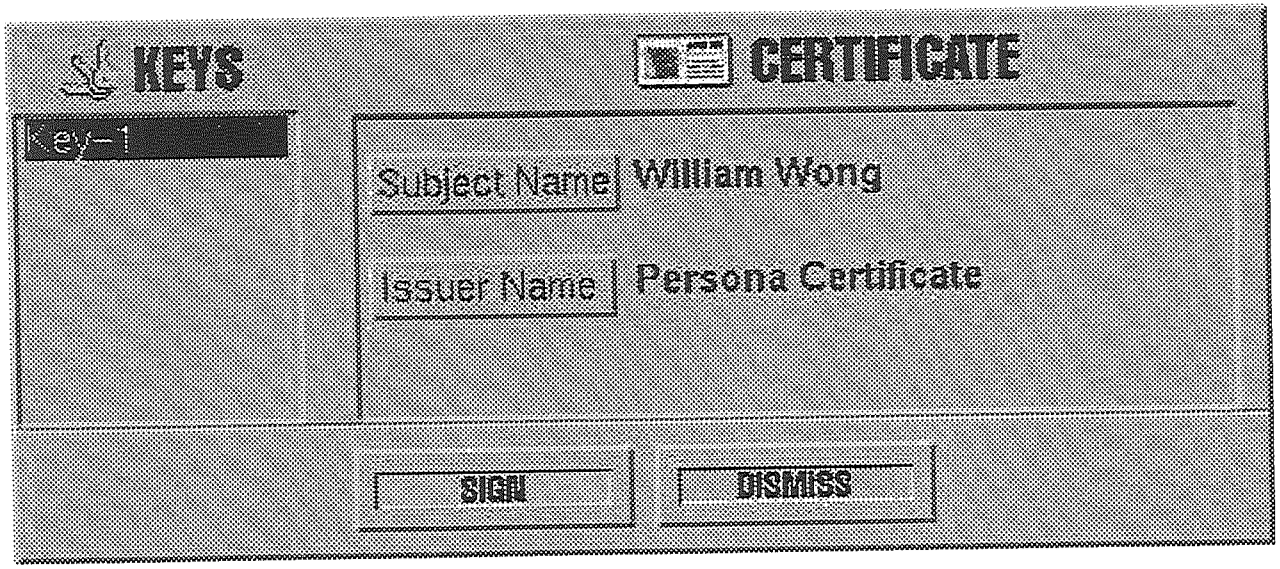


EIT

Complicated, but not for Users

Signing A Request

- (Digitally) Signing is a Deliberate Act



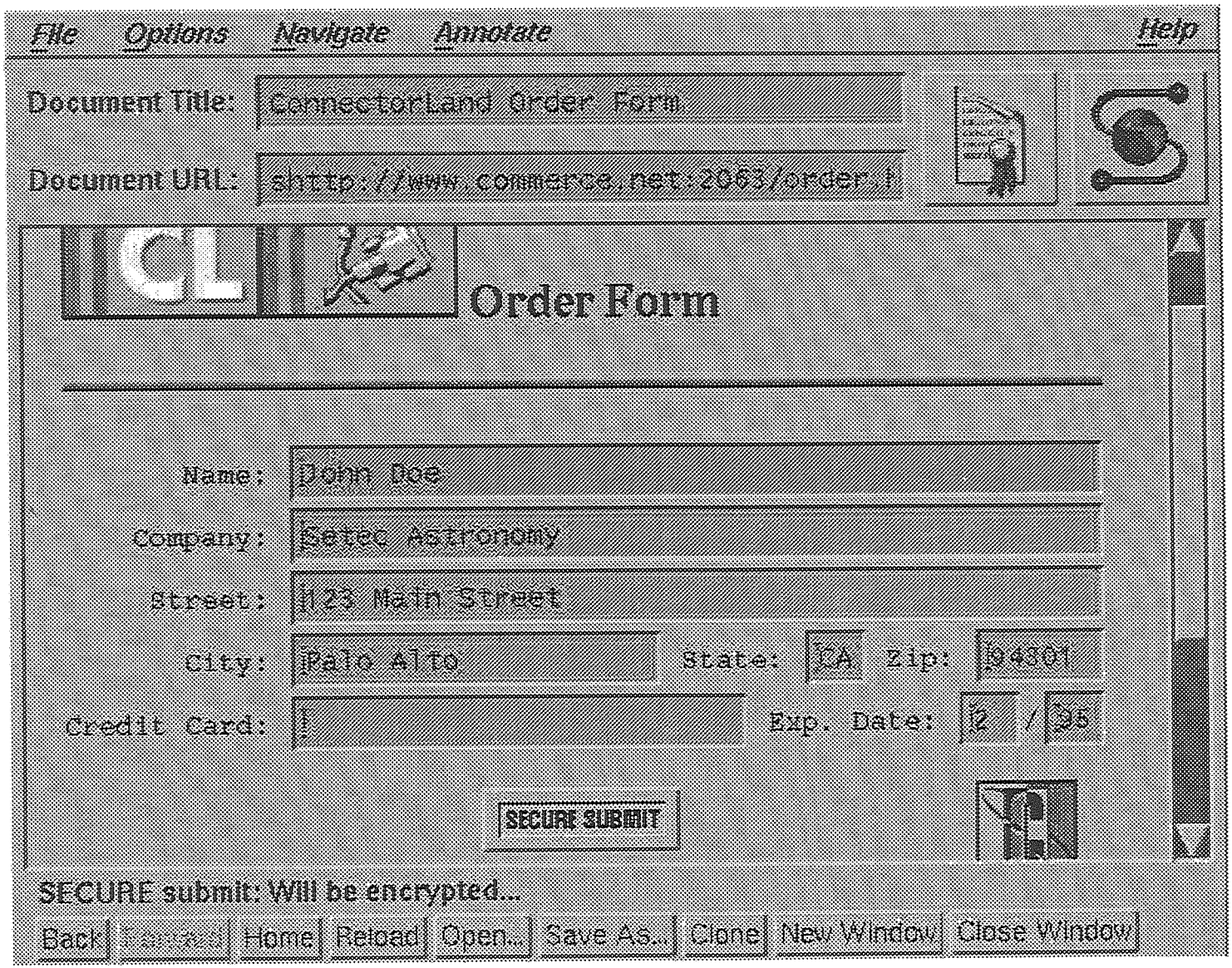
EIT

Example Application Requirements

It Depends...

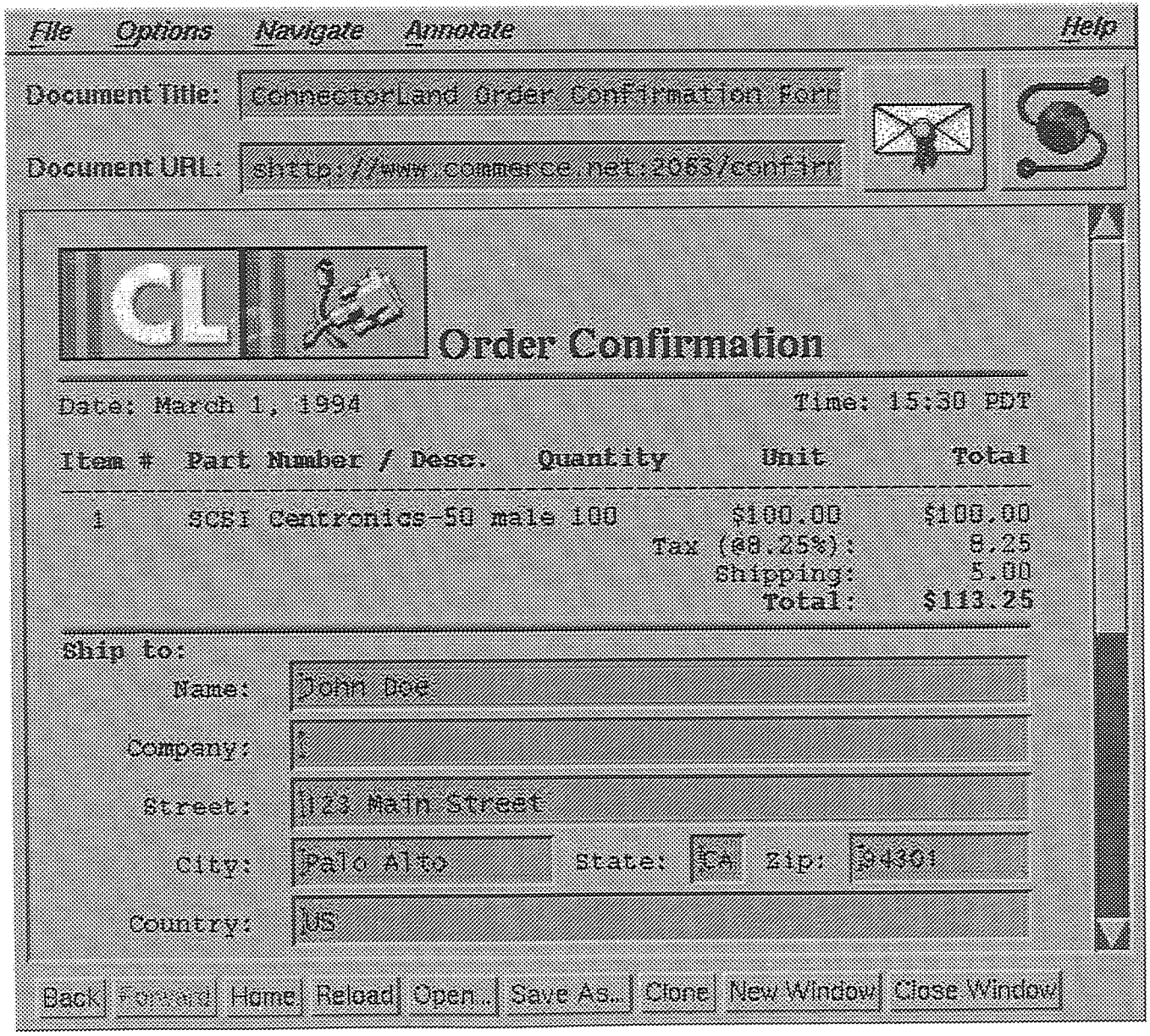
- Product Literature: No Security
- IRS Forms: Unlimited Access, Server Signs
- Customer Support Forum: Client Signs to Begin Session
- Price Quotations: Server Signs and Encrypts
- Credit Card Orders: Client Encrypts
- Funds Transfer: Client & Server Sign and Encrypt

EIT



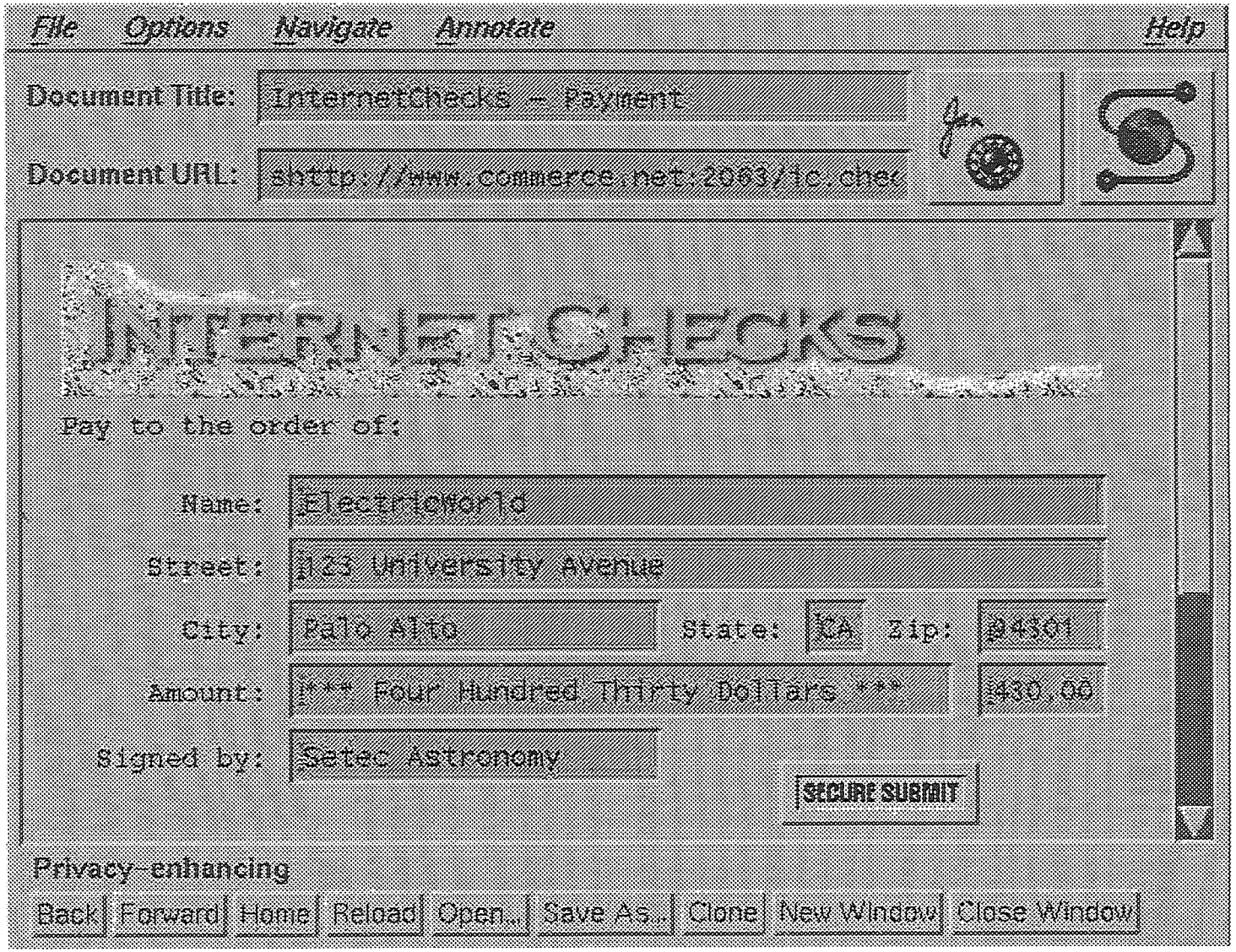
Order Form

EIT



Order Confirmation

EIT



Signing an Internet Check

EIT

The S-HTTP Specification

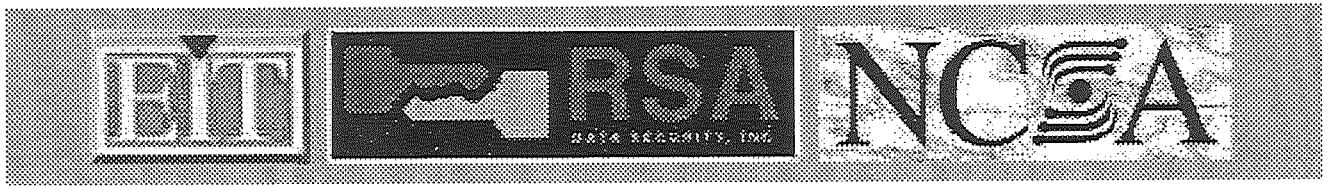
- In Development Since February '94.
- First External Review May '94
  - CERN, NCSA, RSA, TIS
  - HP, Spyglass, others
- First Public Draft Released June '94.
- Second Draft Being Finalized (September '94)
  - Additional Motivational Material
  - More Emphasis on Symmetric-Key Crypto
- Original Plan was to Submit as Experimental RFC.
- Potential Future Standards Material for W3O, IETF?

EIT

Implementation Status

"Reference Implementation"

- Start 2/94, Beta 8/94, Release 10/94
- Client/Server Pair — Cooperative Effort
  - Secure NCSA Mosaic (All Platforms)
  - Secure NCSA httpd (Unix Only)
  - Uses RSA's "TIPEM"
- Distribution Plans
  - To CommerceNet Members
  - Via NCSA (Noncommercial Use)



EIT

Commercial Implementations

- EIT/RSA Joint Venture: Terisa Systems
  - Commercial Developer Toolkits (12/94)
  - Good News
    - Not Competing with WWW Developers
  - Bad News
    - Can't Buy Clients or Servers from Terisa
  - Good News
    - Noncommercial Secure Mosaic via NCSA
    - Commercial Implementations Coming
- Alternative Implementations Welcome

EIT

(Near) Future

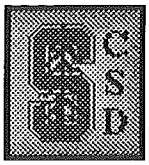
- Next Revision of Specification
- More Implementation Work
  - Reference Implementation Catch-up
  - Exportable Version
  - Enable Freeware Versions via Universities
    - PK-less
    - RSAREF Base
  - Terisa Commercial "SecureWeb Toolkit"
- Standards Activity
  - Shen Harmonization?

EIT

For More Information

- Demonstrations via the web at www.commerce.net
- Latest specification via FTP at ftp.commerce.net: /pub/standards/drafts/shttp.txt
- Terisa Systems product information via email: info@terisa.com

EIT



Enhacing the WWW with co-presence

Ehud Shapiro, Ubique Ltd.

Stanford Computer Forum WWW Workshop - September 20-21, 1994

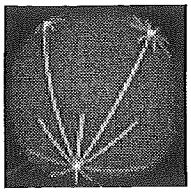
The Internet today accomodates thousands of data servers such as WorldWide Web (HTTP), Gopher, News (NNTP), FTP, and NFS servers. A variety of Internet clients, such as Mosaic, allow hundreds of thousands of users easy and uniform access to knowledge repositories and on-line libraries.

However, people who access Internet's information resources today do so alone, unaware of others who access them at the same time, and hence unable to draw upon each other's personal resources easily. Doors (TM) is a software architecture developed by Ubique that unifies Internet's resources --- people and information --- in a simple framework suitable for live human interaction and collaboration. Doors turns Internet's silent libraries into places teeming with human presence and discourse, allowing people to seek and provide guidance, collaborate with colleagues, and interact socially.

Applications of Doors include virtual support centers, virtual sales rooms, virtual tradeshows, virtual conferences, members clubs, on-going user groups, distributed workgroups and committees, distance learning and telecommuting.

The first large scale application of Doors is a virtual tradeshow to be held during 1995 in conjunction with a large (physical) tradeshow in the computer networking field. In this virtual tradeshow, booths will be staffed by vendor representatives (who may attend the physical show or remain at their office) and attended by visitors from around the world, through the Internet.

[Workshop Schedule] [Workshop Information] [Workshop Readings]



Online Communities on the WWW

Sean White, Interval Research

Stanford Computer Forum WWW Workshop - September 20-21, 1994

As the culture and technology of the WorldWideWeb evolve , the nature of the communities that use the web and new notions of that use emerge. As these new uses appear, groups that share the same physical space and groups with geographically diverse populations are emerging on or being transplanted to the WWW.

In its most basic instantiation, the WWW has made it possible, and relatively simple, for an individual or group to generate virtual representations of identity and memory, two key ingredients in facilitating community interactions. In more advanced implementations of the WWW, members of a community can jointly create large structures of emergent cultural representation. This talk will cover aspects of community interaction and formation that are facilitated, including

- Representation of identity.
- Shared, emergent representations of the community.
- Distributed models of identity based on external reference.
- Media rich methods of communication in the system.
- Symmetrical (almost) ease in production and consumption.

[Workshop Schedule] [Workshop In formation] [Workshop Readings]